Contents

Chapter 1	**Introduction**	**1**
1.1	The Nissan Story	1
1.2	Nissan Micra History	1
1.3	Aims & Objectives	1
Chapter 2	**Preliminary Investigation**	**2**
2.1	System Development Model	2
2.2	Feasibility Study	3
2.3	Software Solution	3
2.4	Hardware Solution	4
Chapter 3	**Research**	**5**
3.1	Alternative Methods	5
3.2	Menu Bar	6
3.3	Title Bar	6
3.4	Colour Scheme	6
3.5	Tables	6
3.6	CSS sheets	7
3.7	QTVR Panoramas	7
Chapter 4	**System Analysis**	**8**
4.1	Content Preparation	8
4.2	Content Flowchart	9
Chapter 5	**System Design**	**10**
5.1	Navigation Design	10
5.2	Story Board	13
Chapter 6	**Implementation**	**14**
6.1	Coding	14
6.2	Problems	21
6.3	Solutions	23
Chapter 7	**System Testing**	**26**
7.1	Test Plan	26
7.2	Test Case	27
Chapter 8	**User Manual**	**31**
Chapter 9	**Evaluation**	**38**
9.1	Aims & Objectives	38
9.2	Time Management	38
Chapter 10	**Conclusion**	**40**
Bibliography		**41**
Appendix A		**42**
Appendix B		**48**

Chapter 1

Introduction

1.1 The Nissan Story

In 1914 the first car was made at the Nissan production line in Japan.

In 1953 a joint venture with Austin of Great Britain allowed Nissan to expand their range. In 1967 the Fairlady 200 was launched, a sports car which has an international appeal. 1969 was the birth of the legendary Datsun 2402. Almost 1.5 million Z sports cars where sold worldwide.

1.2 Nissan Micra History

Nissan Micra's are a top supermini choice as they are reliable, give good performance and fuel economy. In 1993 the Nissan Micra became European Car of the year and went on to win 12 major awards. The millionth Micra was produced in Sunderland, UK in 1999.

This particular model has been chosen as I own a Nissan Micra and found the paper based manual to be dull and boring.

By creating a web based interactive car manual it will allow the user to interact and visually improve the learning experience, which is not possible with the original hard copy paper version.

The intended audience the web site is aimed at is Nissan Micra owners.

1.3 Aims & Objectives

- To create an interactive web based car manual.
- Enable Nissan Micra owner's to ensure familiarity with controls and essential car maintenance.
- To create a 360 degree panoramic tour inside a Nissan Micra.
- Using Active Server Pages scripting to access a database to give dynamically updated web pages.
- Using ASP scripting to implement a facility to allow users to search for Nissan Car Dealers.
- Meet the requirements for target audience.

Chapter 2

Preliminary Investigation

2.1 System Development Model

In order to accomplish a project successfully from start to finish it is important to have a plan or procedure. The work plans for a system development are called system development file cycles.

Classical Waterfall

The lifecycle approach is used from the waterfall model of system development. Figure 2.1 shows the stages in the waterfall.

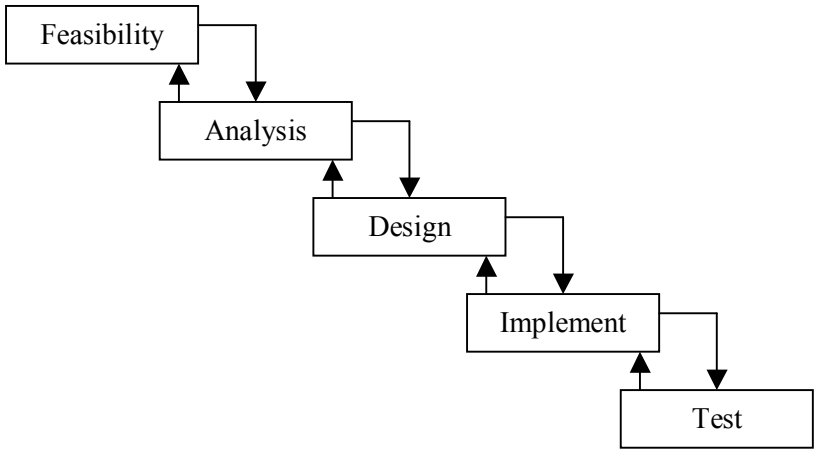


Figure 2.1
System Development Lifecycle

Feasibility

Is the project technically, operationally, financially and legally feasible?

The feasibility study is used to determine if the project should progress. If the project is to proceed then a project plan for the future stages of development will need to be produced.

Analysis

Gather the requirements for the system. This stage includes a detailed study of the needs for the new system.

Chapter 2

Design

This stage focuses on:

High level design – the programs to be used.

Low level design - how the individual programs are going to work.

Interface design - what is the interface going to look like.

Data design - what information is needed.

Implementation

The designs are translated into code. The software and hardware are used to construct the application.

Test

Individual parts of the system are tested then as a whole.

2.2 Feasibility Study

The foremost part of the project was to develop a feasibility study to ensure an understanding of the aims and objectives with project supervisor. A Gantt chart (in Appendix B) was produced to help with project time management and to allow objectives to be broken down into manageable tasks with predicted start and finish times for each work stage and the overall project.

2.3 Software Solution

After careful selection the following software applications were chosen for the project.

As the project was to be a web based application it was necessary to use a HTML editor, the essential tool for visually designing and managing web sites and pages this is why Macromedia Dreamweaver was chosen.

In order to allow the users to navigate around the site it is important to include a menu bar containing links to the various pages. Macromedia Fireworks is the best tool to use for visualising a web site and creating menu bars.

The best software application that can produce high quality web graphics and animation is Macromedia Flash. Flash produces compressed file format called Shockwave that can be downloaded quickly and played by most popular browsers.

The advantage of using the Macromedia software is the compatibility with each other, enabling the Fireworks menu bar and the Flash manual to be imported in Dreamweaver allowing a web based delivery.

To store large amount of data requires a database, Microsoft Access was used for the dealer search facility allowing easy retrieval of data using ASP scripting. The main advantage of using a database is it can easily be updated.
To test and develop the ASP scripting before uploading to a server, Microsoft Personal Web Server was used as it is provided with windows 98 operating system.

To view the web pages a web browser is needed, Microsoft Internet Explorer is the most widely used and was required during the implementation and testing stages.

There where several software applications that could have been used to create 360 degrees panoramas by combining images together to create a QuickTime movie that can be used for web pages. The application used for the project is "The Panorama Factory" as this is a trial version downloaded from www.download.com.

Olympus Camedia Master is the image management application used to download images from the Olympus digital camera.

Adobe PhotoShop is an image editing package used to produce high quality images for the Web

2.4 Hardware Solution

To develop the project the main hardware needed is a PC with the appropriate software packages installed.
Olympus digital camera obtained from the Electrical Engineering Department to take images for the panoramic tour.
A tripod used to mount the digital camera on.
A scanner used to scan images from the Nissan Micra owner's manual.
The Nissan Micra Owner's Manual, the main source of information for the content of the site.

Chapter 3

Research

3.1 Alternative Methods

There were many different ways considered to produce the project using various software applications available.

Initially it was decided to create the project using 3ds max, which is a powerful application used to create professional quality 3D models and film quality animations. The idea was to create a 3D model of a Nissan Micra to allow a user to virtually explore the vehicle. Due to unfamiliarity with the software application this idea was not utilised.

Macromedia Director was also considered as Director movies play either with a Shockwave player or through a projector player. The Shockwave player allows movies to be played in Web browsers and also outside browsers as stand-alone applications. The projector player can only play movies independent of a Web browser.
The disadvantage with Director is it does not allow flexibility with the drawing tools and the shaping of animation.

One of the objectives of the project was to include a dealer search facility, this could only been achieved if produced as a web based application. The advantage of a web based application is that it can be distributed on a CD-ROM, all features will work except for the dealer locator, which can only run from a web server.

3.2 Menu Bar

The most important part of a web site is the navigation, how potential users will navigate around enabling them to find the content they require quickly.

The best place to locate a menu bar is either at the top of the page or along the left hand side.

3.3 Title Bar

To attract the user into the material a combination of text and graphics related to the subjects have been used to create a title bar for each of the pages. It also gives an indication of where the user is at all times.

3.4 Colour Scheme

Colour is the quickest and most powerful way to create the tone of a web site, not only does it add visual appeal but it is also important because of the message it sends to the site user. Choosing the right colour combinations for the text and background improves a reader's experience on the site.

Figure 3.1 shows the colour scheme used consistently throughout the site. A white background with the main text in purple, headings in orange, important information in red and graphics are in different shades of purple.

The colour scheme chosen is visually appealing and eye-catching whilst giving a calm and peaceful mood to the site.

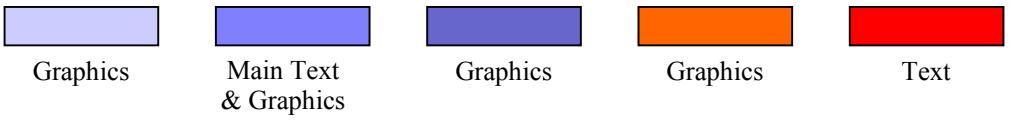


Figure 3.1
Colour Scheme

3.5 Tables

Using tables within Dreamweaver helps to construct the pages, as it is a good tool for laying out data and images on a page. The main advantage of using tables is that it reduces loading times and is supported by all browsers.

3.6 Cascading Style Sheets (CSS Sheets)

The main advantage of using CSS sheets is they ensure consistency throughout the site by controlling the appearance of the content, such as font style, size and colour.

3.7 QTVR (QuickTime Virtual Reality) Panoramas

QTVR panoramas can be created using images captured from the following types of cameras:

- 35mm film cameras
- Digital cameras
- Video cameras

The most common method to create QTVR panoramas is to capture a series of images around a single point of rotation then digitise them into a set of image files. Using QTVR software the image files are stitched together and compressed before being transformed into the final QTVR panorama.

The advantage of QTVR Panoramas is the user has the ability to the following features:

- Vertical panning
- Horizontal panning
- Zooming into or out of the panorama

Chapter 4

System Analysis

4.1 Content Preparation

Before implementation of coding it was important to establish the content to be put on the site to determine the site's structure. As the manual covers a wide range of topics it would not be feasible to cover all topics within the web site. A questionnaire was carried out on five potential users to help establish the content requirements. The questionnaires can be found in Appendix A.

After reviewing the questionnaires the following topics where selected to be included in the flash manual.

- **Instruments and Controls**
  - Instruments and Control Layout (Right-hand Drive models)
  - Speedometer and odometer
  - Tachometer (where fitted)
  - Coolant Temperature Gauge
  - Fuel Gauge
  - Warning/Indicator Lights and Buzzer
  - NATS (NISSAN Anti-theft system)
  - Hazard Warning Flasher Switch

- **Pre-driving checks and adjustments**
  - Bonnet Release
  - Supplemental Restraint System (Air Bag System)
  - Air Bag Warning Light

- **Starting and Driving**
  - Running in Schedule
  - Before Starting the Engine
  - Care When Driving
  - Starting the Engine (Petrol Engine Models)
  - Driving with Manual Transmission
  - Cold Weather Driving Precautions

- **Maintenance**
  - Maintenance
  - General Maintenance

4.2 Content Flowchart

Organising the site structure is an important aspect as it prevents problems in the later stages of development. Figure 4.2 shows the hierarchy structure for the site.

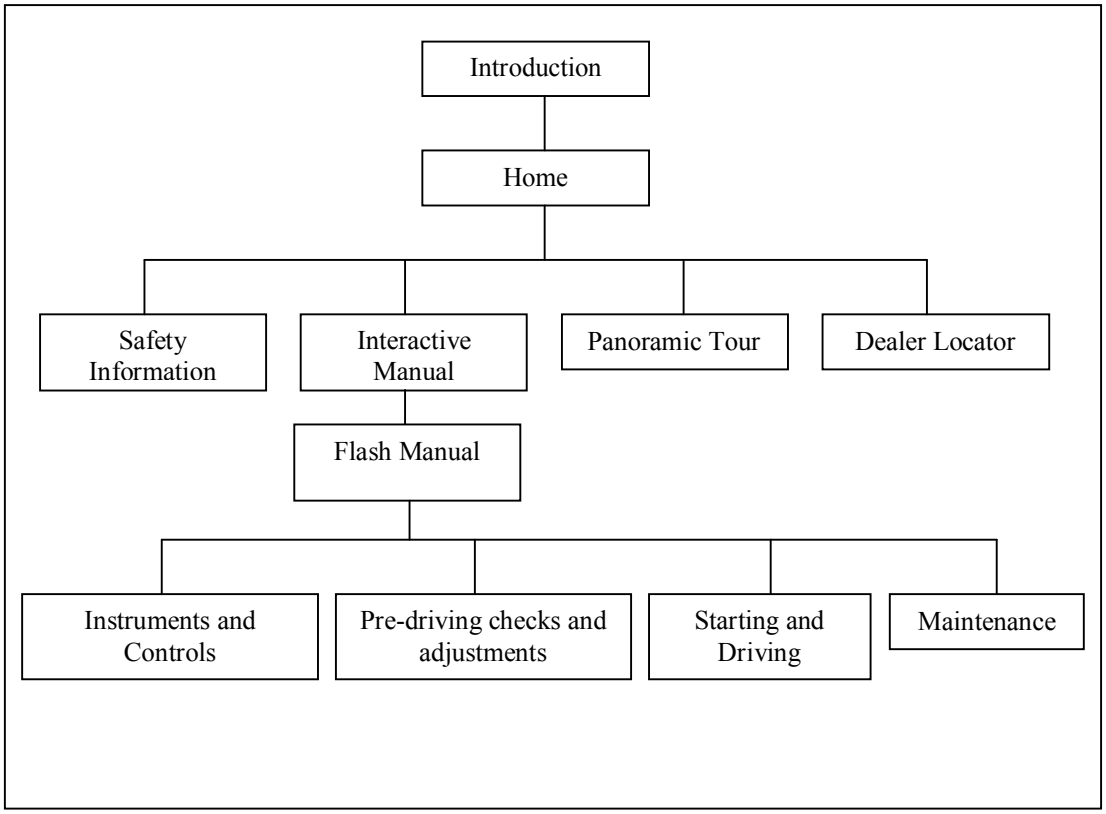


Figure 4.2
Content Flowchart

Chapter 5

System Design

5.1 Navigation Design

Figures 5.1 shows the site navigation structure how the users will navigate around from page to page using the menu bar.

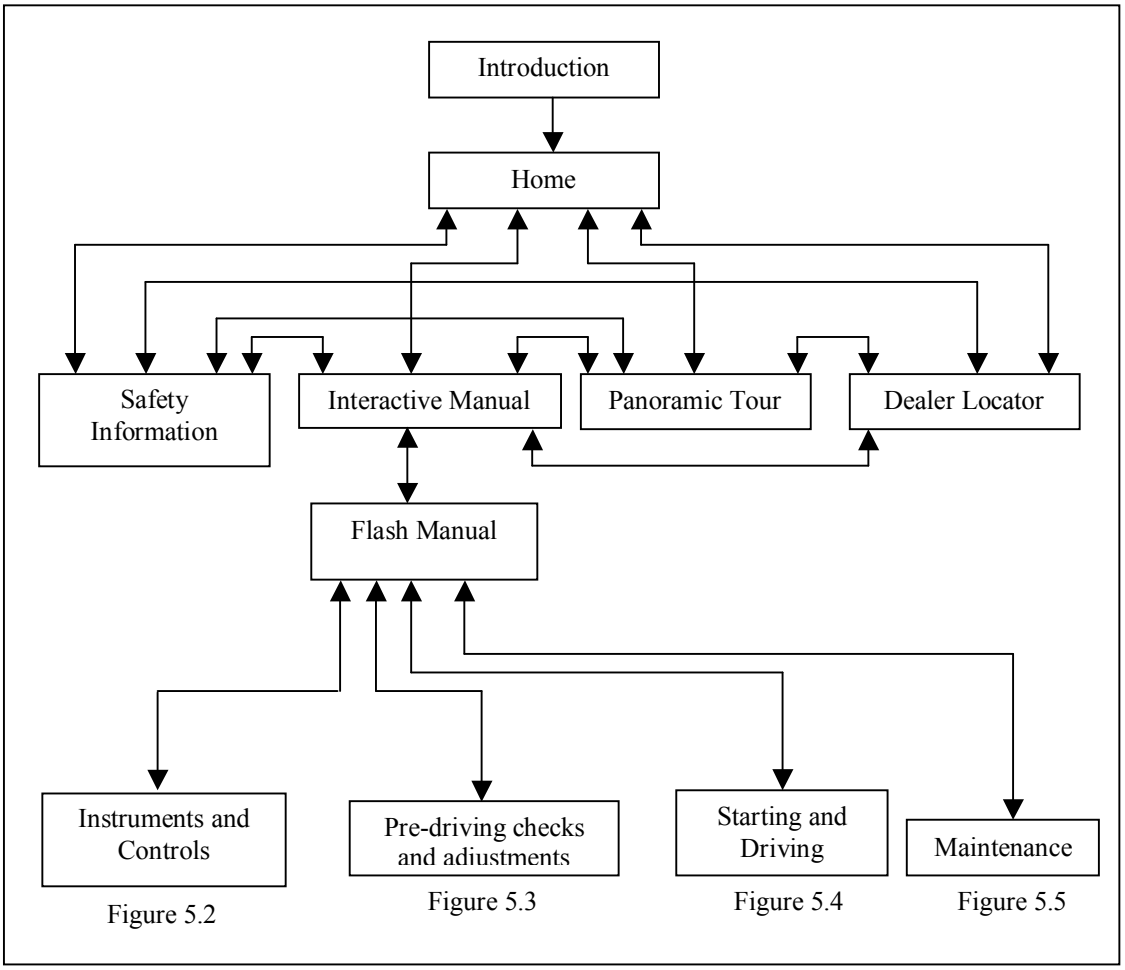


Figure 5.1
Navigation Structure

Chapter 5

Navigation Design

Figure 5.2 shows the navigation for the "Instruments and Controls" topic, which contains links to the sub topics.

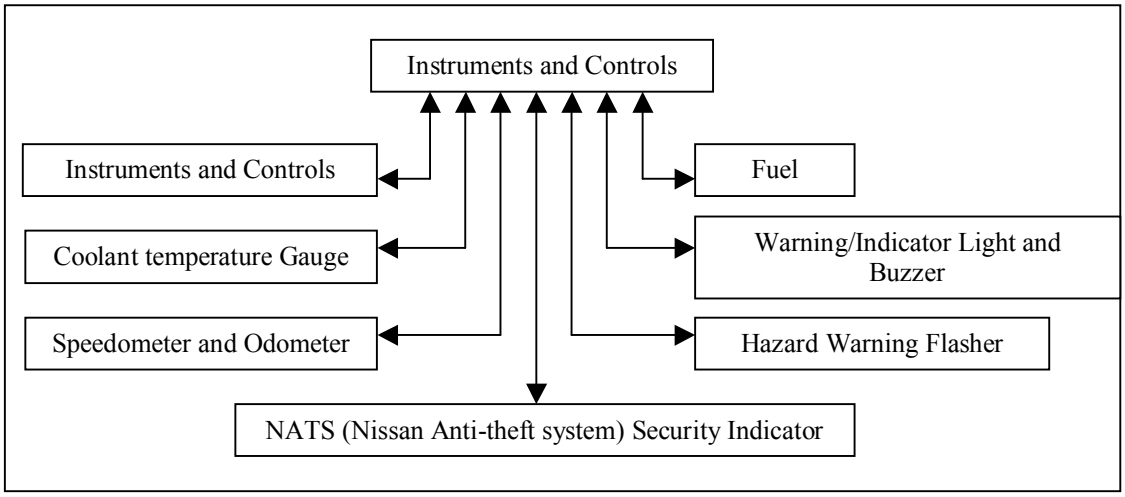


Figure 5.2

Figure 5.3 shows the navigation for the "Pre-driving checks and adjustments" topic, which contains links to the sub topics.

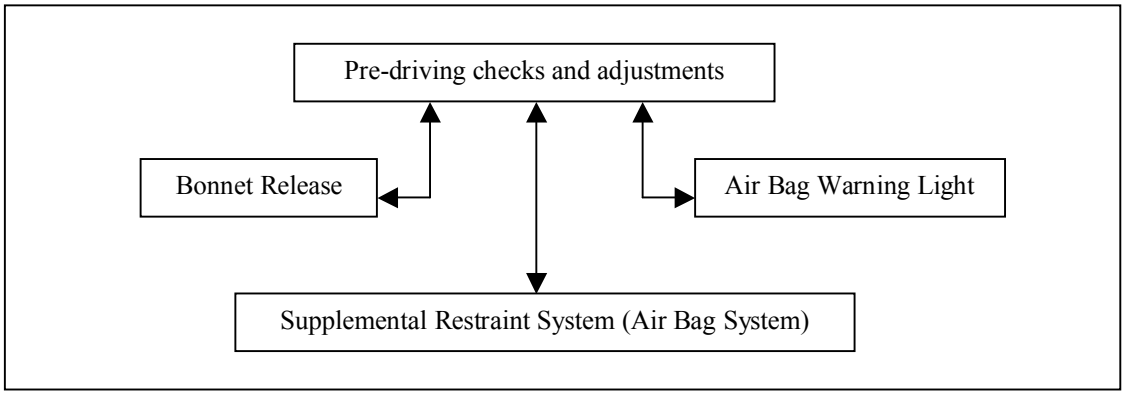

Pre-driving checks and adjustments
Bonnet Release
Air Bag Warning Light
Supplemental Restraint System (Air Bag System)

Figure 5.3

Chapter 5

Navigation Design

Figure 5.4 shows the navigation for the "Starting and Driving" topic, which contains links to the sub topics.

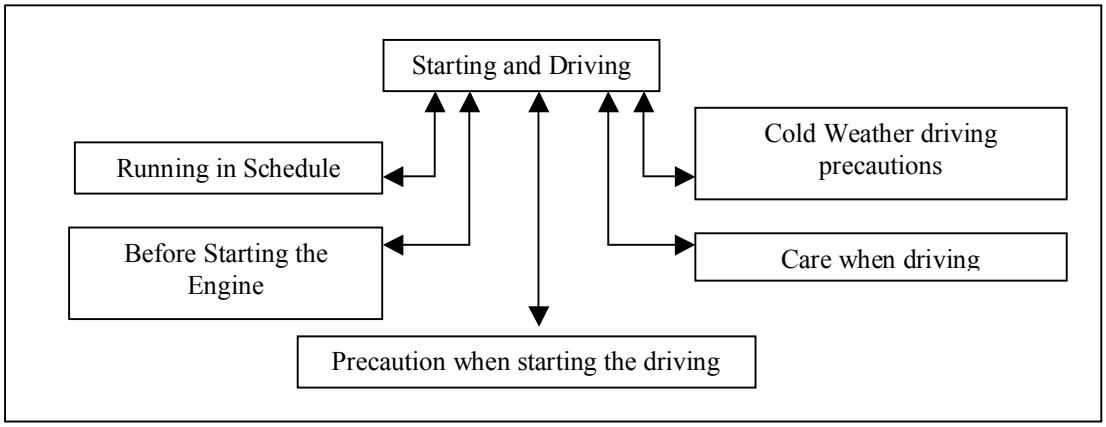


Figure 5.4

Figure 5.5 shows the navigation for the "Maintenance" topic, which contains links to the sub topics.

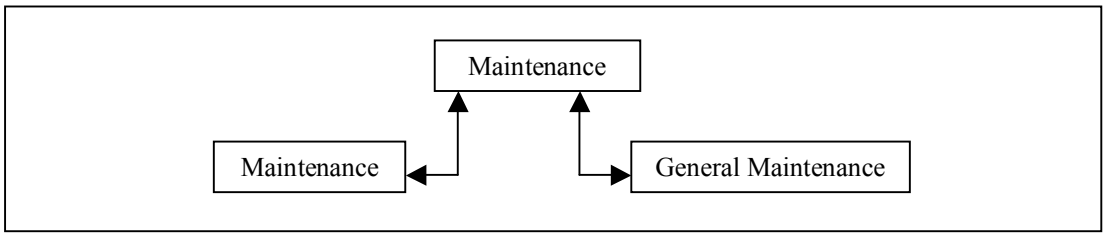
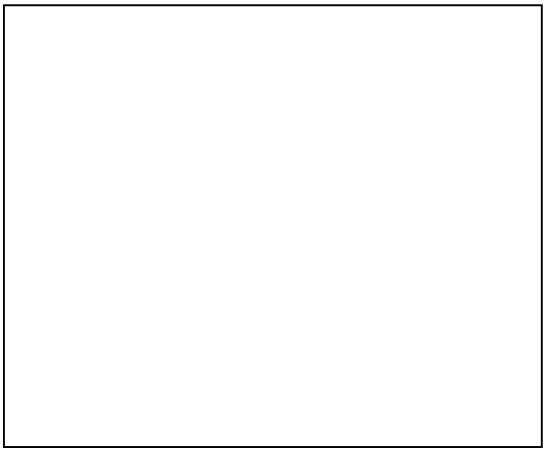
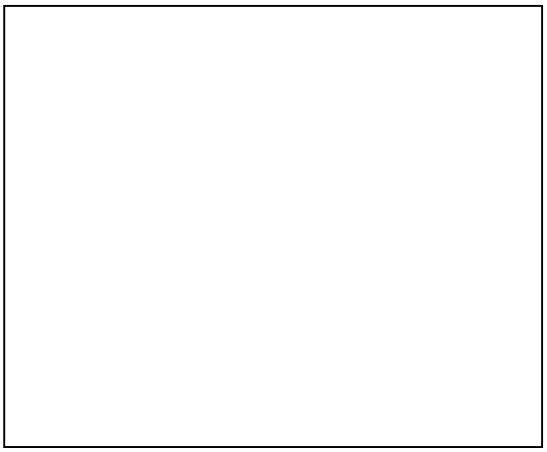


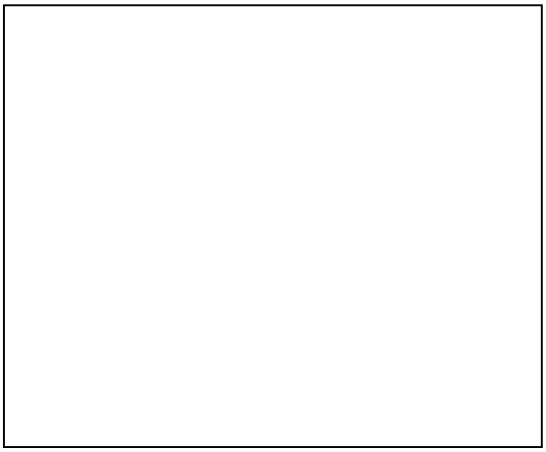
Figure 5.5

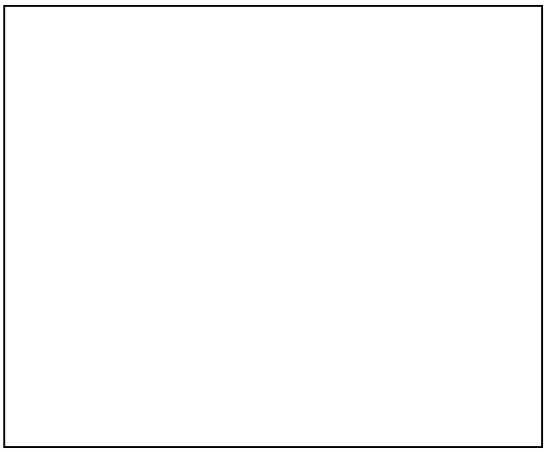
Chapter 5

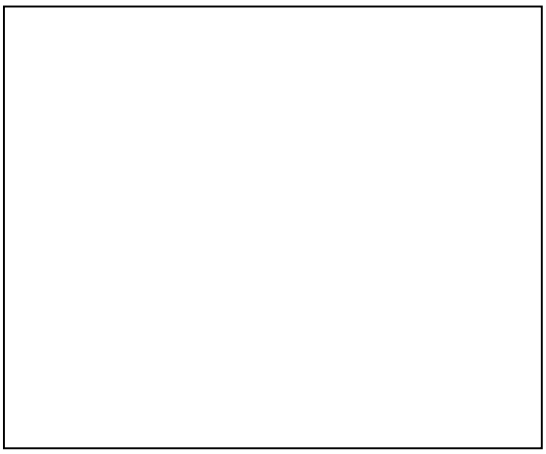
5.2 Story Board

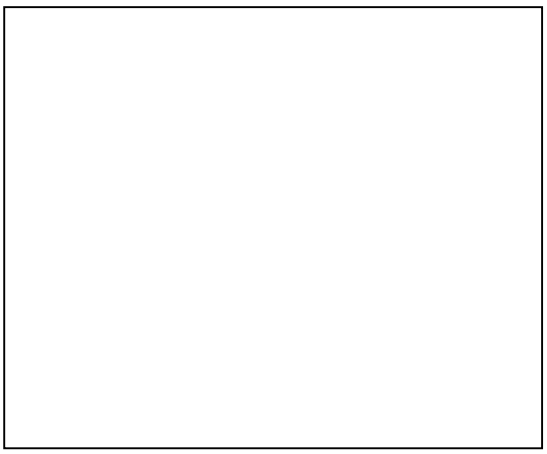












Chapter 6

Implementation

6.1 Coding

Macromedia Flash was used to create the introduction animation to the web site. Pictures were obtained from various web sites then imported into Flash to be used as part of the animation. Once the animation had been completed, sequenced sound and music was added. The animation was exported as a Shockwave (swf) file format and then imported into Dreamweaver to allow for a web based delivery.

Using the help menu within Flash, a preloader was created which is a simple animation that plays as the rest of a movie downloads.
The following is the Action script used for the preloader.

```
ifFrameLoaded ("Scene 1", 345) {
   nextScene ();
   play ();
}
```

Once the animation has finished it automatically opens the homepage using the following action script.

```
getURL ("home.html");
```

The intro page also contains a button created in flash to enable the user to skip the animation and go straight to the homepage. The link for the button contains the following action script.

```
on (press) {
   getURL ("home.html");
}
```

Chapter 6

As the web site is to be uploaded on to the departmental web server, the intro page contains a link to the university disclaimer page that reads:

Disclaimer - This link refers to an important message which should be read in conjunction with this information.

The graphics for the homepage where designed and created using Fireworks then exported as HTML and images, this produces the HTML code for the rollovers.
The appropriate tools were used within Dreamweaver to allow the Fireworks HTML file to be imported. The lower part of the homepage also contains a flash animation.

The interactive manual page has a link to open the flash manual. The link contains a behaviour, which is a prewritten JavaScript code that opens a new browser window when clicked on. The user will have the ability to resize the window according to their screen resolution. The shockwave file for the flash manual has been set to 100% width and 100% height in Dreamweaver, so that it will resize itself according to the browser window size.
The interactive manual page also has a link to the Macromedia web site, in order for the user to download flash player, needed to view the flash manual.

The flash manual contains links to the four main topics, when the mouse is placed over a topic the sub topics are displayed, this was done using the following action script:

```
on (rollOver) {
   gotoAndPlay ("b1");
}
on (rollOut) {
   gotoAndPlay ("b1-0");
}
on (press) {
   gotoAndPlay ("instruments and controls", 1);
}
```

The images used for the topics were scanned from the paper based manual then imported into flash where it was redrawn using the vector drawing tools.

Chapter 6

The following Action Script was obtained from the Flash Kit web site, used for the puzzle. The Action Script is used for each of the labels, to enable the user to drag it into the correct place. If the label is placed over the correct box it will fit into place otherwise it will return to its original position. Figure 6.1 shows the interactive puzzle.

```
on (press) {
        startDrag ("/a1");
}
on (release) {
        stopDrag ();
}
on (release) {
        if (getProperty("/a1", _droptarget) eq ("/b1")) {
                setProperty ("/a1", _x, "217");
                setProperty ("/a1", _y, "71");
        } else {
                setProperty ("/a1", _x, "135");
setProperty ("/a1", _y, "498");
        }
}
```
[1]

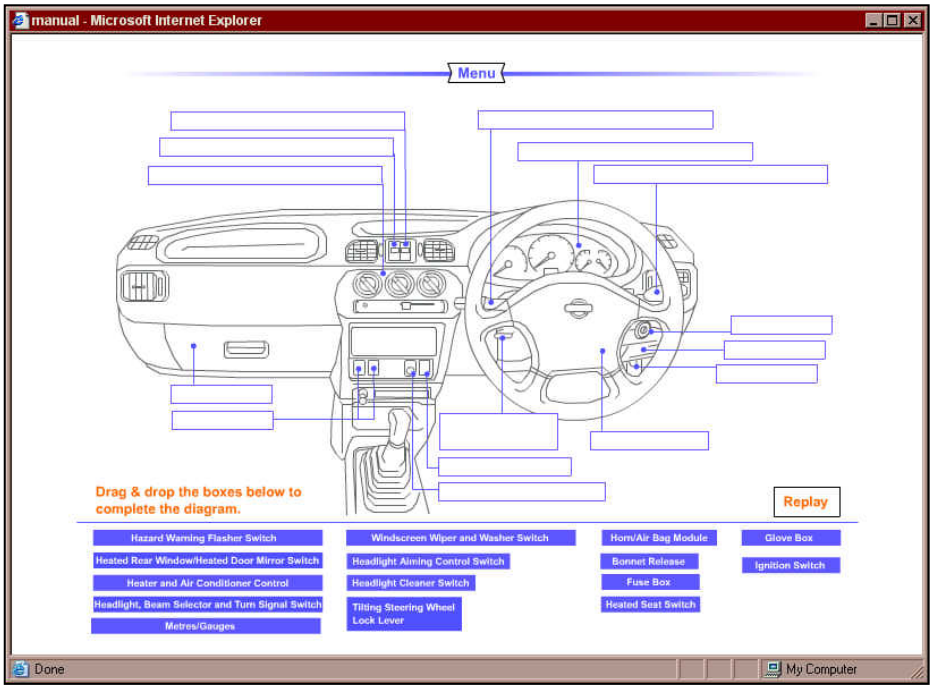


Figure 6.1

[1] http://www.flashkit.com

Chapter 6

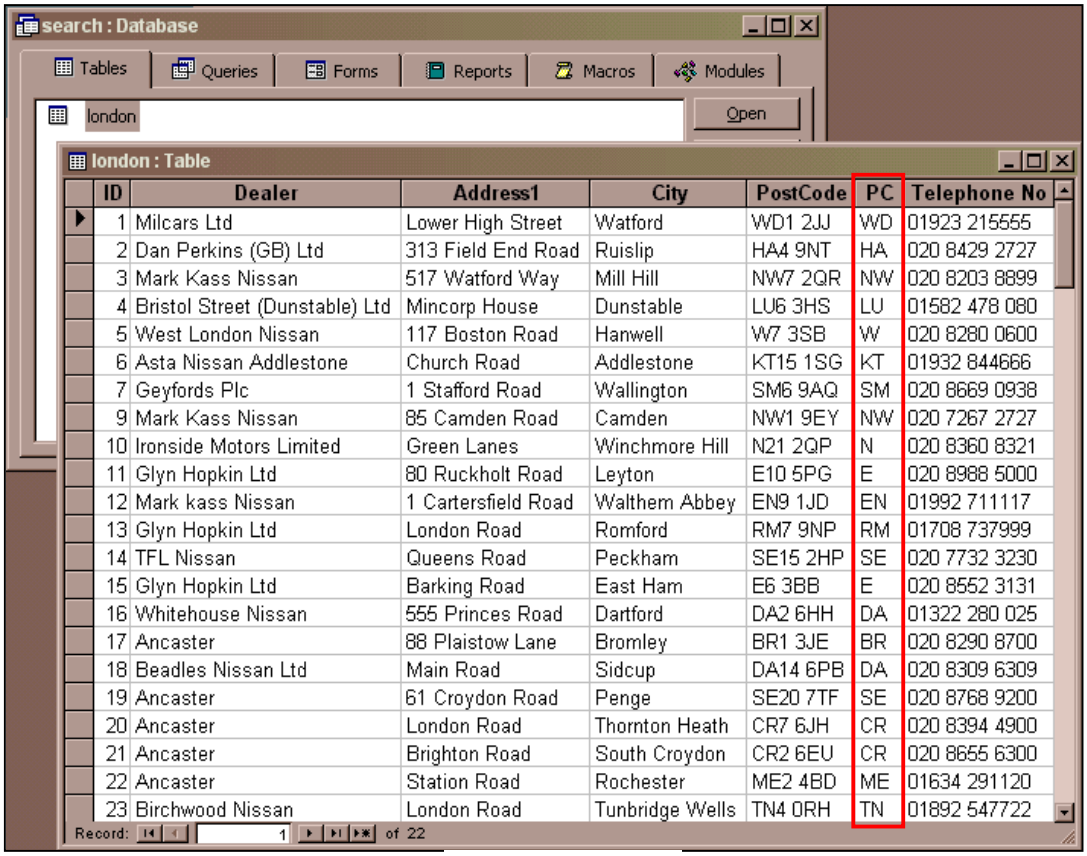
The images for the panoramic tour was taken using a digital camera, this was done by holding the camera in the middle of the car and taking a total of fourteen pictures all the way round. The images were then downloaded onto PC and using "The Panorama Factory", the images were stitched together to produce the output QuickTime movie. Within Dreamweaver, the insert plugin option was used to import the QuickTime movie. The following HTML code was generated to enable the browser to locate the movie file and set the size properties.

<embed src="qtvr/car.mov" width="304" height="264"
pluginspage="http://www.apple.com/quicktime" controller="true" bgcolor="ffffff">
</embed>

When viewed in a browser the users has the ability to interact with the movie using the mouse or keyboard. To view the movie the users will require the QuickTime plugin, the page contains a link to the QuickTime web site where they can download the plugin if required.

Chapter 6

The Dealer Locator works simply by obtaining input from user, searches a database and sends them the results. The first part of this task was to visit the Nissan web site and search for the appropriate dealer addresses. The addresses were then entered into an access database. Figure 6.2 shows a table of Nissan dealers in London.



search : Database

Tables | Queries | Forms | Reports | Macros | Modules

london | Open

london : Table

ID	Dealer	Address1	City	PostCode	PC	Telephone No
1	Milcars Ltd	Lower High Street	Watford	WD1 2JJ	WD	01923 215555
2	Dan Perkins (GB) Ltd	313 Field End Road	Ruislip	HA4 9NT	HA	020 8429 2727
3	Mark Kass Nissan	517 Watford Way	Mill Hill	NW7 2QR	NW	020 8203 8899
4	Bristol Street (Dunstable) Ltd	Mincorp House	Dunstable	LU6 3HS	LU	01582 478 080
5	West London Nissan	117 Boston Road	Hanwell	W7 3SB	W	020 8280 0600
6	Asta Nissan Addlestone	Church Road	Addlestone	KT15 1SG	KT	01932 844666
7	Geyfords Plc	1 Stafford Road	Wallington	SM6 9AQ	SM	020 8669 0938
9	Mark Kass Nissan	85 Camden Road	Camden	NW1 9EY	NW	020 7267 2727
10	Ironside Motors Limited	Green Lanes	Winchmore Hill	N21 2QP	N	020 8360 8321
11	Glyn Hopkin Ltd	80 Ruckholt Road	Leyton	E10 5PG	E	020 8988 5000
12	Mark kass Nissan	1 Cartersfield Road	Walthem Abbey	EN9 1JD	EN	01992 711117
13	Glyn Hopkin Ltd	London Road	Romford	RM7 9NP	RM	01708 737999
14	TFL Nissan	Queens Road	Peckham	SE15 2HP	SE	020 7732 3230
15	Glyn Hopkin Ltd	Barking Road	East Ham	E6 3BB	E	020 8552 3131
16	Whitehouse Nissan	555 Princes Road	Dartford	DA2 6HH	DA	01322 280 025
17	Ancaster	88 Plaistow Lane	Bromley	BR1 3JE	BR	020 8290 8700
18	Beadles Nissan Ltd	Main Road	Sidcup	DA14 6PB	DA	020 8309 6309
19	Ancaster	61 Croydon Road	Penge	SE20 7TF	SE	020 8768 9200
20	Ancaster	London Road	Thornton Heath	CR7 6JH	CR	020 8394 4900
21	Ancaster	Brighton Road	South Croydon	CR2 6EU	CR	020 8655 6300
22	Ancaster	Station Road	Rochester	ME2 4BD	ME	01634 291120
23	Birchwood Nissan	London Road	Tunbridge Wells	TN4 0RH	TN	01892 547722

Record: 1 of 22

Figure 6.2
Database Table

Chapter 6

The next step was to produce the scripting to retrieve the required information from the database.

Using Dreamweaver the following ASP script was typed into the html editor.
When a user enters a postcode in the text box and clicks on search, the script establishes a connection with the Access Database and searches through the PC column in the database, the matching results are then displayed.

```
<%
strSearch = Request.Form("search")
If strSearch <> "" Then
Dim strConnect, SQL
        Dim RS
        strConnect = "Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" &
Server.MapPath("search.mdb") & ";"
        SQL = "SELECT * FROM london WHERE INSTR(london.PC,'" & strSearch &
"')"
        Set RS = Server.CreateObject("Adodb.Recordset")
        RS.Open SQL,strConnect
        Do Until RS.EOF
                'If Len(strSearch) >= 1 AND LCase(strSearch) = LCase(RS("Post
Code")) Then
                   Response.Write "<B>" & RS("Dealer") & "</B>" & "<BR>"
                        Response.Write RS("Address1") & "<BR>"
                        Response.Write RS("City") & "<BR>"
                        Response.Write RS("PostCode") & "<BR><BR>"
                        Response.Write RS("Telephone No") & "<BR>" & "<BR>"
                'End If
                RS.MoveNext
        LOOP
        RS.Close
End If
%>
```
[2]

[2] http://www.1AspStreet.com

Chapter 6

Using the information obtained from the research, tables were used within Dreamweaver to construct all the pages allowing easy arrangement of the information and graphics. The text on all the pages have been set into columns, as this is much easier to read.

All pages contain the same menu bar with the Nissan logo in the top left corner with links to the other pages, giving it a consistent look and feel when users navigate around the site. The web pages also have a title bar giving an indication to the user the current page they are on. CCS Stylesheet has also been used to apply formatting to all the text on all the pages, giving it a consistent look by keeping the properties of the font the same.

Chapter 6

6.2 Problems

6.2.1 Menu Bar

Adobe PhotoShop was originally used to produce a prototype menu bar shown in figure 6.3 When viewed in a web browser the image was blurred and the quality was unsuitable for a web based delivery, although saved as high resolution JPEG file.

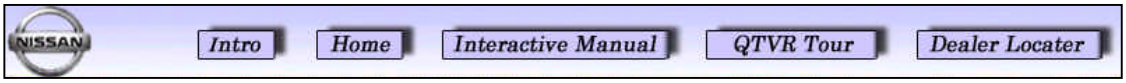


Figure 6.3
Prototype Menu bar

6.2.2 Home Page

The homepage in figure 6.4 was created in fireworks using the same colour scheme as the initial menu bar (shown in figure 6.5), this was also shown to users to provide feedback. The users response was too many pictures were used and the page needed some animation.

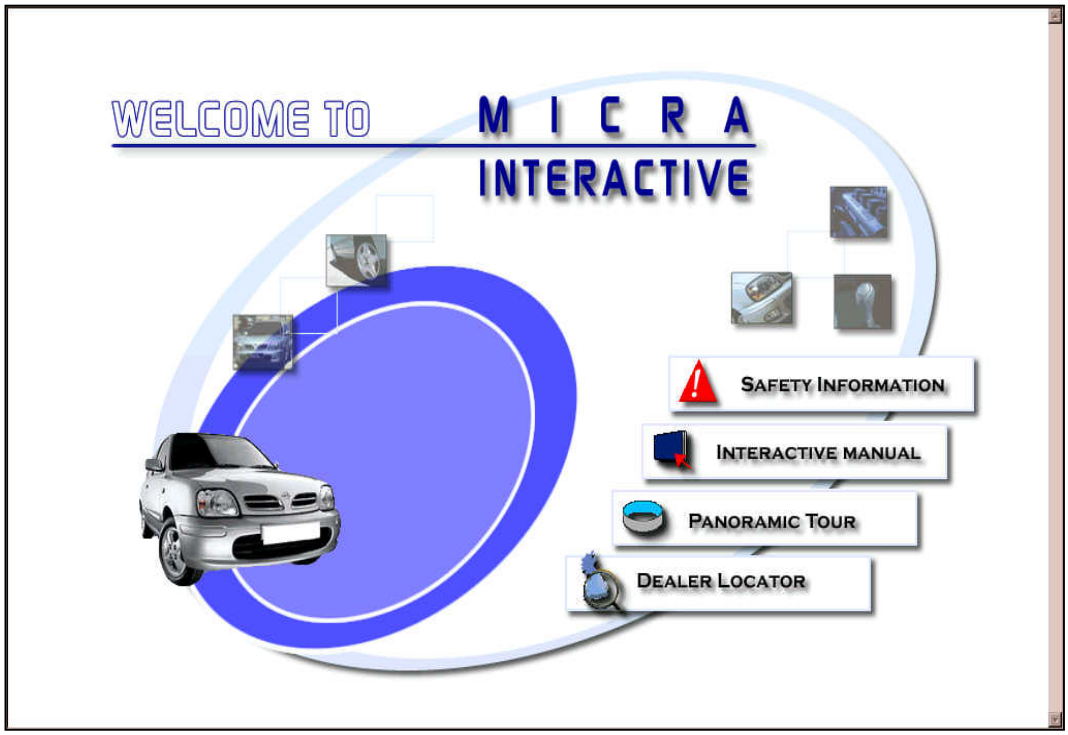


Figure 6.4
Initial Homepage

6.2.3 Panoramic Tour

When the QuickTime movie was viewed, the images had not aligned and stitched properly because of the difficulty in keeping the camera steady whilst taking the pictures.

6.2.4 Dealer Locator

The ASP scripting used was obtained from "Beginning Active Server Pages 3" book, it did not work as expected as the search would only work if the postcode entered matched exactly what was in the database. This meant that the user would have to enter the exact postcode of the dealer they wish to view the address of. After modification of the script it still did not work as intended.

Chapter 6

6.3 Solutions

6.3.1 Menu Bar

The menu bar in figure 6.5 was created using Macromedia Fireworks. The new design was shown to potential users to provide feedback. The users found the links were too small, difficult to read and overall not visually appealing. The quality of the image was much better then the menu bar created using PhotoShop.

Figure 6.5
Initial Menu bar

Figure 6.6 shows the final menu bar design.

Figure 6.6
Final Menu bar

6.3.2 Home Page

Using the same colour scheme as the final menu bar (figure 6.6), fewer pictures were used and a Flash animation was added to create a new design for the homepage (shown in figure 6.7).

Figure 6.7

6.3.3 Panoramic Tour

To solve the problem of keeping the camera stable, it was attached to a tripod, and then placed in the centre of the car. The tripod was adjusted to only move horizontally and then pictures were taken keeping sure that each picture overlapped by at least 20%. Figure 6.8 shows the output stitched image.

Figure 6.8
Stitched pictures

6.3.4 Dealer Locator

After research on the World Wide Web, an advanced ASP script was found at the following URL: http://www.1AspStreet.com.

The new script still did not work as expected, as the search results would only be displayed if the first two characters the users entered matched the postcode in the database. Another problem was the script does not produce a message to indicate to the user if no search results were found. After modification of the script, the problem was still not resolved so it was decided to keep the ASP script.

6.3.5 Interactive Flash Manual

As most of the topics covered within the interactive manual were text based there was limited amount of animation and user interaction. As the objective was to create an interactive manual, an additional topic was added “Driving with Manual Transmission”. The particular topic was chosen because it was possible to create an interactive animation, which had not been used in the manual before.

A puzzle was also created to allow the user to test their knowledge on one of the topics covered within the manual.

Further information regarding the puzzle can be found in chapter 6 section 6.1.

Chapter 7

System Testing

7.1 Test Plan

While the project was under development it was continuously tested. Once the implementation of the project was completed a test plan was produced on ways to test the finished design.

To self test the site the following questions were asked:

- Is the loading time for the site reasonable?
- Is the page layout and use of colour, fonts, and images consistent throughout the site?
- Does the design appeal to the target audience?
- Is there a balance between text and images used?
- Are the colour combinations appropriate for the site's purpose?
- Is the navigation located in the same place on every page of the site?
- Is the content sufficient to meet user needs and expectations?
- Is text content free from spelling and grammatical errors?

Chapter 7

7.2 Test Case

No	1
File	index.html
Action	Mouse over skip intro button. Click on skip intro button.
Expecting Result	Button changes colour to indicate mouse over. Links to the homepage.
Actual Result	The colour changes as expected. The button links to the homepage.

No	2
File	home.html
Action	Mouse over links. Click on each link.
Expecting Result	Links indicate mouse over. All links go to correct page.
Actual Result	Links are underlined to indicate mouse over. All links go to correct page.

No	3
File	safety.html
Action	Mouse over links. Click on each link.
Expecting Result	Links indicate mouse over. All links go to correct page.
Actual Result	Links are underlined to indicate mouse over. All links go to correct page.

No	4
File	qtvr.html
Action	Mouse over links. Click on each link. Use move to view panoramic tour. Click on QuickTime link.
Expecting Result	Links indicate mouse over. All links go to correct page. QuickTime movie allows 360 degrees tour. QuickTime link opens QuickTime web site in new window.
Actual Result	Links are underlined to indicate mouse over. All links go to correct page. Panoramic tour works as expected The QuickTime link opens a new browser window.

No	5
File	Dealer_Search.asp
Action	Mouse over links. Click on each link. Postcode entered into box then clicked on search button
Expecting Result	Links indicate mouse over. All links go to correct page. Search results displayed.
Actual Result	Links are underlined to indicate mouse over. All links open up correct page. The search results are displayed if there are any matching postcodes.

No	6
File	Manual.html
Action	Mouse over links. Click on each link. Use move to view panoramic tour. Click on Flash link.
Expecting Result	Links indicate mouse over. All links go to correct page. Open Interactive manual opens new window. The flash link opens a new browser window.
Actual Result	Links are underlined to indicate mouse over. All links go to correct page. The Interactive manual opens a new browser window containing the flash.html page. Flash link opens Macromedia web site in new window.

Chapter 7

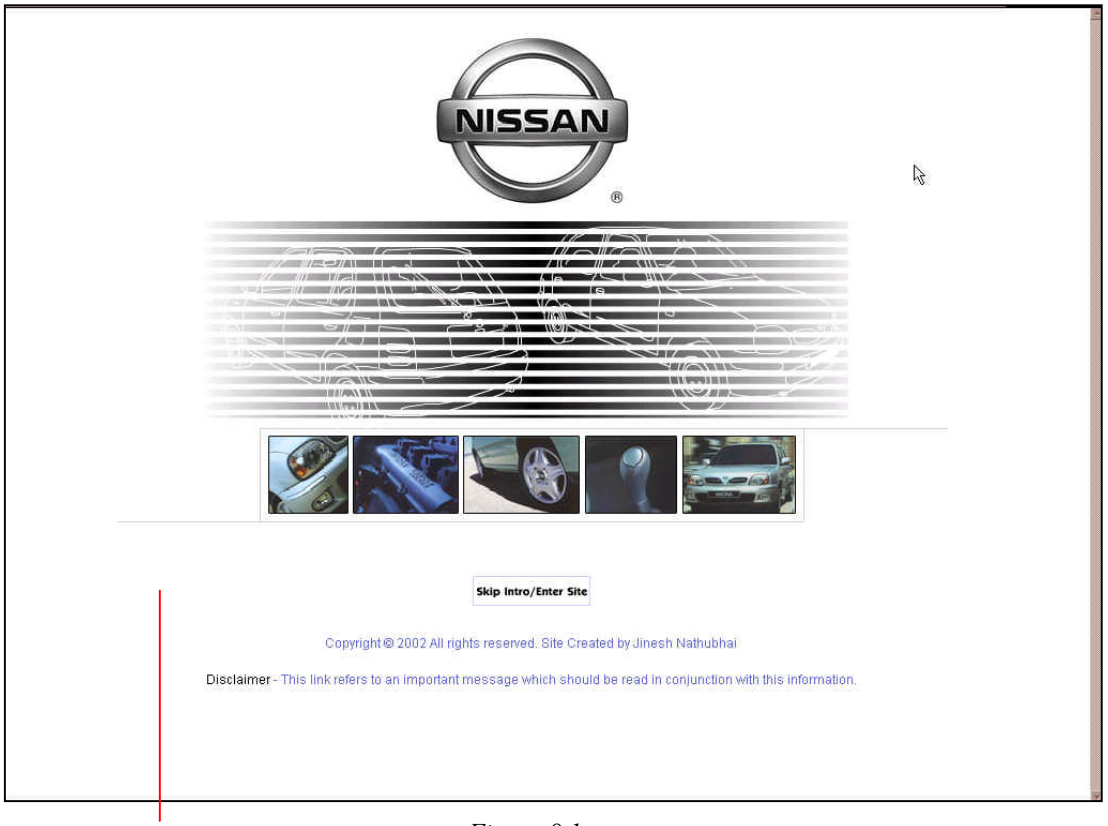
No	7
File	flash.html
Action	Mouse over links. Click on each link. Use all interactivity in the flash manual. Drag and Drop puzzle labels.
Expecting Result	Links indicate mouse over. All links go to correct frames and scenes. Puzzle labels fit into place if correct otherwise returns back to original position.
Actual Result	Links are indicated by colour change when mouse is placed over them. All links go to the correct frames and scenes. Puzzle works as expected.

Chapter 8

User Manual

The first page the user will see when the site is launched, is the intro page (shown in figure 8.1), this will play a flash animation for approximately 30 seconds then automatically take them to the homepage.

If the user wishes to skip the animation at any time, they can do so by clicking on the skip intro button.


NISSAN
Skip Intro/Enter Site
Copyright © 2002 All rights reserved. Site Created by Jinesh Nathubhai
Disclaimer - This link refers to an important message which should be read in conjunction with this information.

Skip intro button

Figure 8.1
Intro page

Figure 8.2 shows the homepage containing links to the four main pages.

Figure 8.2
Homepage

The safety information page (shown in figure 8.3) contains important information. Using the menu bar the user can navigate to the other pages of the site.

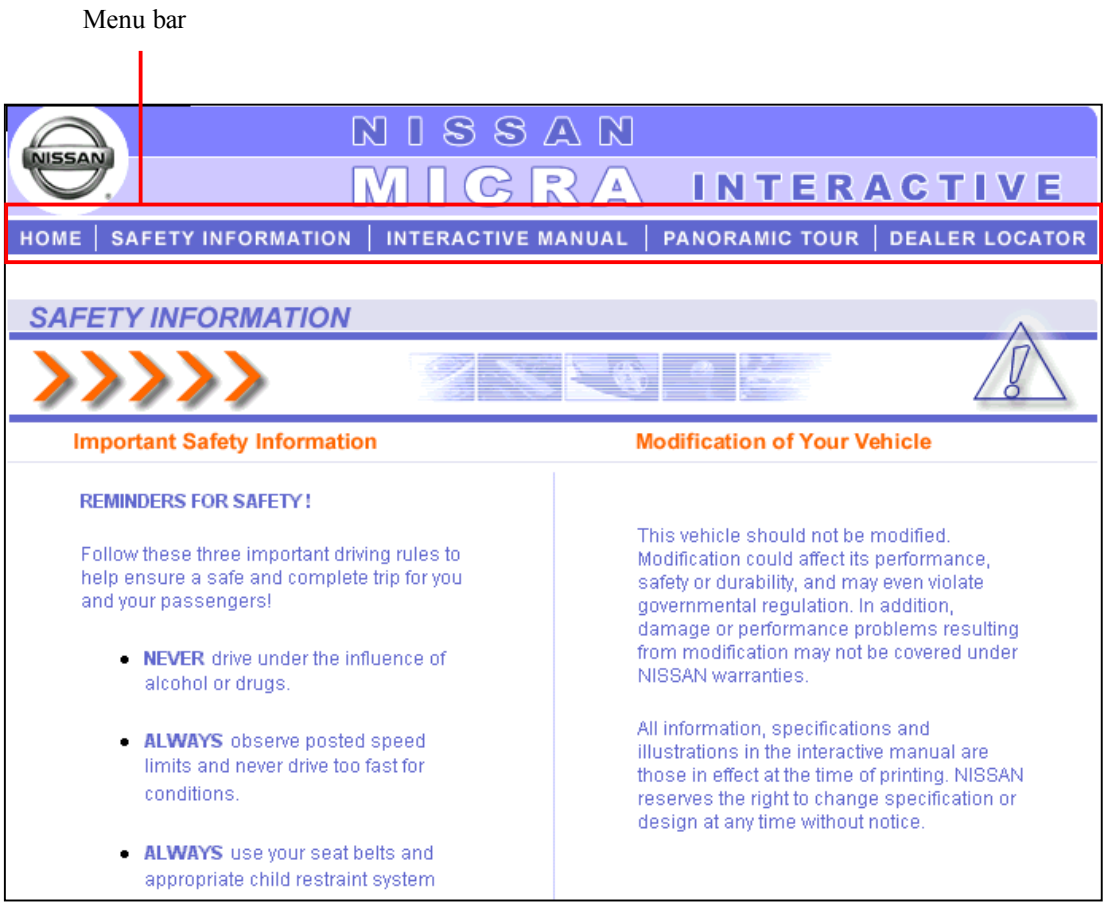
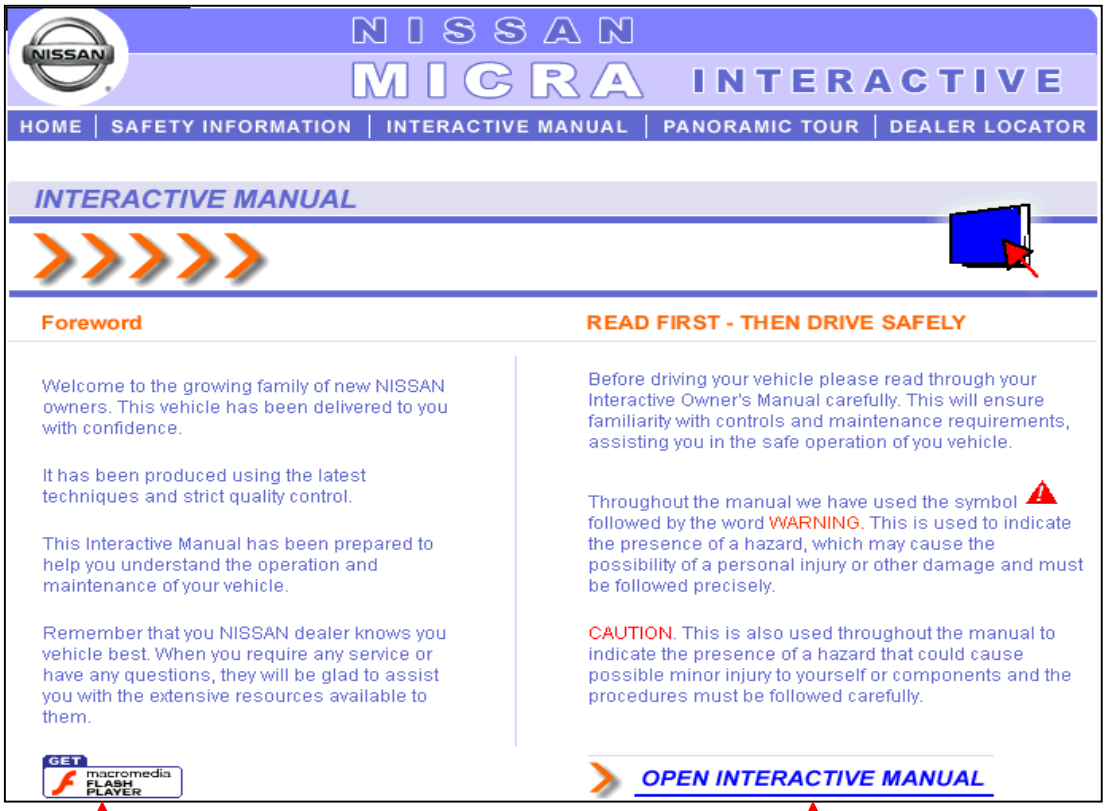

Menu bar
NISSAN
NISSAN MICRA INTERACTIVE
HOME | SAFETY INFORMATION | INTERACTIVE MANUAL | PANORAMIC TOUR | DEALER LOCATOR
SAFETY INFORMATION
Important Safety Information
REMINDERS FOR SAFETY!
Follow these three important driving rules to help ensure a safe and complete trip for you and your passengers!
NEVER drive under the influence of alcohol or drugs.
ALWAYS observe posted speed limits and never drive too fast for conditions.
ALWAYS use your seat belts and appropriate child restraint system
Modification of Your Vehicle
This vehicle should not be modified. Modification could affect its performance, safety or durability, and may even violate governmental regulation. In addition, damage or performance problems resulting from modification may not be covered under NISSAN warranties.
All information, specifications and illustrations in the interactive manual are those in effect at the time of printing. NISSAN reserves the right to change specification or design at any time without notice.

Figure 8.3
Safety Information

The Interactive Manual page (shown in figure 8.4) contains information, which the users must read before operating the vehicle. This page has a link at the bottom of the page to open the flash manual. The page also has a link to the Macromedia site if the user needs to download flash player.


NISSAN
MICRA INTERACTIVE
HOME | SAFETY INFORMATION | INTERACTIVE MANUAL | PANORAMIC TOUR | DEALER LOCATOR
INTERACTIVE MANUAL
Foreword
Welcome to the growing family of new NISSAN owners. This vehicle has been delivered to you with confidence.
It has been produced using the latest techniques and strict quality control.
This Interactive Manual has been prepared to help you understand the operation and maintenance of your vehicle.
Remember that you NISSAN dealer knows you vehicle best. When you require any service or have any questions, they will be glad to assist you with the extensive resources available to them.
GET macromedia FLASH PLAYER
READ FIRST - THEN DRIVE SAFELY
Before driving your vehicle please read through your Interactive Owner's Manual carefully. This will ensure familiarity with controls and maintenance requirements, assisting you in the safe operation of you vehicle.
Throughout the manual we have used the symbol followed by the word WARNING. This is used to indicate the presence of a hazard, which may cause the possibility of a personal injury or other damage and must be followed precisely.
CAUTION. This is also used throughout the manual to indicate the presence of a hazard that could cause possible minor injury to yourself or components and the procedures must be followed carefully.
OPEN INTERACTIVE MANUAL

Link to Macromedia site

Figure 8.4
Interactive Manual

Opens Interactive Manual

When the “open interactive manual” link is clicked on it will open a separate browser window containing the flash manual (shown in figure 8.5).

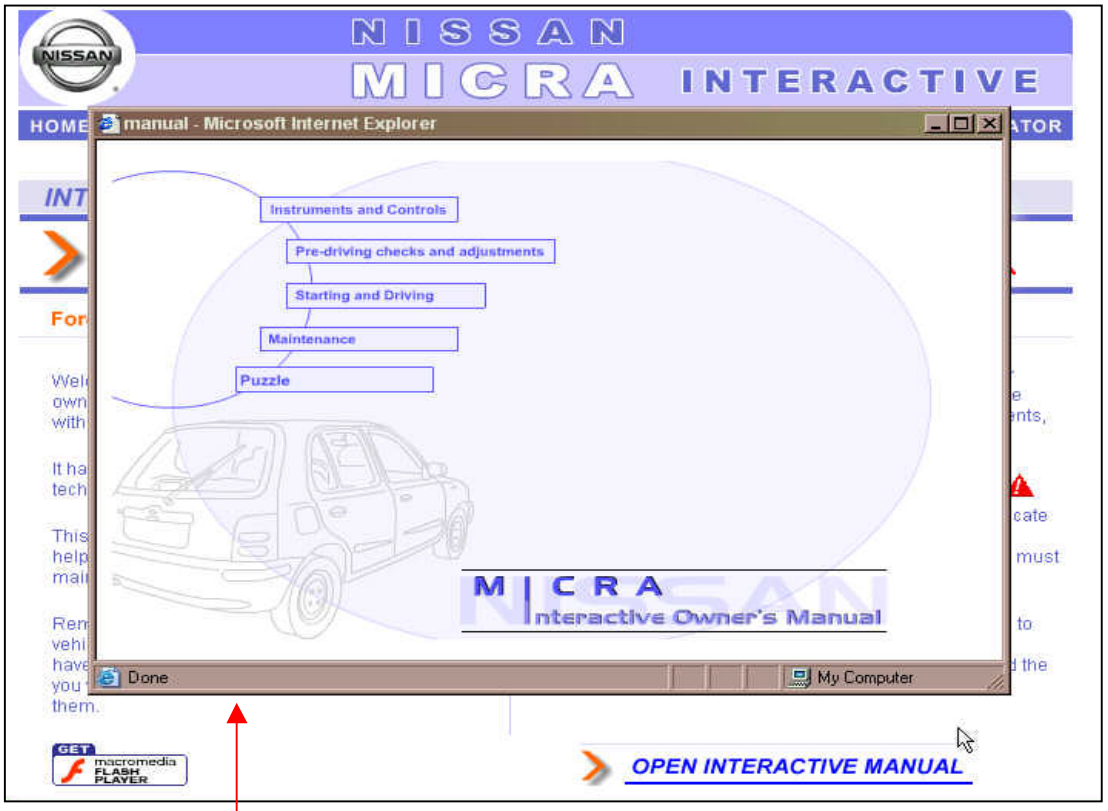


Figure 8.5
Flash Manual

Figure 8.6 shows the panoramic tour page, which contains the navigation controls for the QuickTime movie. To take the tour the user simply clicks on the picture then uses either the mouse or keyboard to navigate around.

NISSAN
NISSAN MICRA INTERACTIVE
HOME | SAFETY INFORMATION | INTERACTIVE MANUAL | PANORAMIC TOUR | DEALER LOCATOR
PANORAMIC TOUR
Navigation Controls
Keyboard:
Left Arrow key = Left
Right Arrow Key = Right
Control Key = Zoom Out
Shift Key = Zoom In
Mouse:
Hold down Left button and move Left
Hold down Right button and move Righ
The panoramic tour uses Quicktime 4.
Download the plug-in by clicking here

Figure 8.6
Panoramic Tour

Link to QuickTime web site

To search for a Nissan dealer the user simply enters a postcode into the input box then clicks on search, if there are any matching results it will be displayed on the right side of the page.

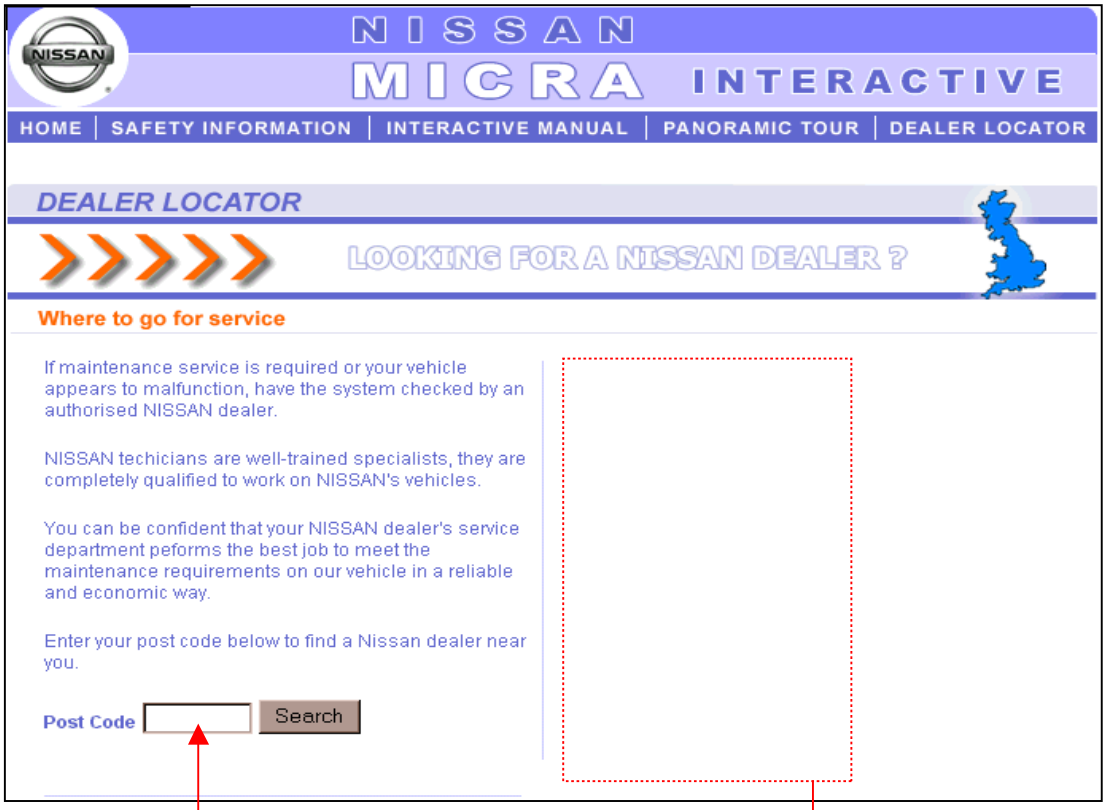

NISSAN
MICRA INTERACTIVE
HOME | SAFETY INFORMATION | INTERACTIVE MANUAL | PANORAMIC TOUR | DEALER LOCATOR
DEALER LOCATOR
LOOKING FOR A NISSAN DEALER ?
Where to go for service
If maintenance service is required or your vehicle appears to malfunction, have the system checked by an authorised NISSAN dealer.
NISSAN techicians are well-trained specialists, they are completely qualified to work on NISSAN's vehicles.
You can be confident that your NISSAN dealer's service department peforms the best job to meet the maintenance requirements on our vehicle in a reliable and economic way.
Enter your post code below to find a Nissan dealer near you.
Post Code
Search
Search Box
Results Displayed

Figure 8.7
Dealer Locator

Chapter 9

Evaluation

By creating a web based interactive car manual it will allow the user to interact and visually improve the learning experience, which is not possible with the original hard copy paper version.

The intended audience the web site is aimed at is Nissan Micra owners.

9.1 Aims & Objectives

- To create an interactive web based car manual.

The Interactive Car Manual was created using Macromedia Flash using a combination of sound, graphics and interactivity to meet the objective.

- Enable Nissan Micra owner's to ensure familiarity with controls and essential car maintenance.
- Meet the requirements for target audience.

Conducting a user questionnaire enabled the needs of the target audience to be met as a wide range of topics has been covered.

- To create a 360 degree panoramic tour inside a Nissan Micra.

Using the appropriate hardware and software resources the panoramic tour was created successfully meeting the objective.

- Using Active Server Pages scripting to access a database to give dynamically updated web pages.
- Using ASP scripting to implement a facility to allow users to search for Nissan Car Dealers.

The dealer locator allows a user to search for Nissan dealers within two clicks. Using ASP scripting a database of dealers is searched through and the results are displayed.

9.2 Time Management

The most important aspect in achieving a successful project is time management. Appendix B shows the Gantt chart that was produced during the initial stages of the project. During the analysis and design stage it was important to carry out a questionnaire to determine the structure for the site.

Chapter 9

As the introduction and homepage did not affect the overall structure, it was decided to create these pages during this stage allowing more time to be spent on the other parts of the site.

One of the most time consuming part of the project was the design of the menu bar and homepage, as they had to be redesigned. The other time consuming part was creating the flash manual. Redrawing the images in flash took longer then expected as they had to be preciously drawn in detail.

It was initially decided to store addresses of all Nissan dealers in a database. As there are hundreds of dealers across the UK it would no be feasible to cover all regions so it was decided to limit the search facility to dealers in London.

Weekly checks were made against the Gantt chart, on the progress of work and the quality of each task as it was produced.

Although the project was completed two weeks before the expected completion date part of the flash manual had to be modified to include more interactivity which led to the project being completed exactly as initially planned.

Chapter 10

Conclusion

During the second year of the course the module "Multimedia Group Project" was studied, this enabled concepts of system specification, design, development and integration. This also helped to understand the importance of human computer interface design. Using ASP scripting with databases, an online shopping web site was produced. The skills and knowledge learnt was applied to this project.

The aim of the "System Test & Evaluation" module studied in the final year was to develop an experimental topic, by managing time effectively and keeping an up to date logbook of work undertaken. A technical report was also produced as part of the assessment.

Using the skills and knowledge learnt over the past 3 years they have been applied to the project to further enable problem solving skills, time management and how to implement and manage a technology based project. These skills will be used in the near future when joining a technology based industry.

Future Development

The future development for the project can cover all the topics within the interactive manual with more animation and multiple choice quizzes to allow users to test their knowledge on the information learnt.

As this is a prototype for the particular model of car, it can be easily adapted for any make or model of vehicle. If the project was to be made commercial it is not necessary to include all the features the web site currently offers, the most important part is the actual flash manual, which can be kept as a web application or be made standalone. The flash manual can be distributed with new cars on a CD-ROM.

Bibliography

Books:

Nissan Micra Owner's Manual
1998 NISSAN EUROPE N.V. AMSTERDAM, THE NETHERLANDS

Chris Ulman, David Buser, Jon Ducket, Brian Francis, John Kauffman, Juan T. Llibre, David Sussman (2000). Beginning Active Server Pages 3.0. Wrox Press Ltd, Birmingham (UK)

World Wide Web:

Nissan.co.uk
URL: http://www.nissan.co.uk

Nissan Global
URL: http://www.nissan-global.com/

ASP Street
URL: http://www.1AspStreet.com

The Wrox Web Development Site
URL: http://webdev.wrox.co.uk

Flash Kit
URL: http://www.flashkit.com

Good Web Sites
URL: http://www.leafdigital.com/class/lessons/graphicdesign2/2.html

Introduction to System Development Lifecycle
URL: http://www.doc.mmu.ac.uk/online/SAD/T02/sdlc.htm

QTVR Online Tutor
http://www.letmedoit.com/qtvr/qtvr_online/Mod2/m2.html

Appendix A

Questionnaires

Appendix B

Gantt Chart